

OIB - DC-8 10/15/16 Science Report

Aircraft:

[DC-8](#) ([See full schedule](#))

Date:

Saturday, October 15, 2016

Mission:

OIB

Mission Location:

Punta Arenas, Chile

Mission Summary:

Mission: Foundation - Support Force 34 (priority: high)

This flight is a new design, one of a suite of four flights designed to sample the bedrock, sub-ice shelf bathymetry and surface topography of the Foundation and Support Force ice streams on a 20-40 km grid. This flight combines the earlier Foundation-Support Force 03 and 04 concepts into a single flight, eliminating coverage of Support Force. It extends coverage previously acquired closer to the grounding line, downstream toward the Ronne Ice Shelf.

Weather today continued to be extremely poor across most of West Antarctica, the Bellingshausen and Weddell Seas, and somewhat poor - and worsening during the day - over the Peninsula. The polar plateau was also partially covered in cloud. This left the Ronne/Filchner drainage as our only viable science target for today. We selected this mission because it was the highest-priority flight with suitable weather. Our weather models all suggested this flight would see clear skies, but this assessment was confirmed by a last-moment Terra/MODIS (NASA Rapidfire) imagery pass. The imagery from this pass became available to us just a few minutes before our go/no-go decision had to be made. Our expectation that this scenario could happen, with our only reliable high-resolution imagery source (MODIS), is what led us to move our schedule later by one hour. Today's sequence of events nicely illustrated the reason behind that schedule change.

All instruments performed well. The DMS primary camera experienced a failure while on the data line, but the operators switched to the backup camera within a few seconds, resulting in a minimal loss of data.

We conducted a ramp pass at 1200' on departure, to ensure good illumination of the DMS calibration targets.

Data volumes:

AIRGrav: 5 Gb

ATM: 21 Gb

CAMBOT: 8 Gb

DMS: 50 Gb

FLIR: 8 Gb

Ku-Band Radar: 343 Gb

MCoRDS: 1.3 Tb

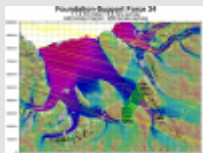
Narrow Swath ATM: 20 Gb

Snow Radar: 343 Gb

total data collection time: 3.7 hrs

Images:

Map of Foundation-Support Force 34



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Mountains of Alexander Island



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Eastern shear margin of Foundation Ice Stream



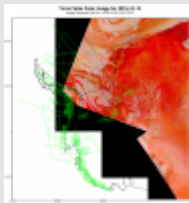
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Forrestal Mountains



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Terra/MODIS image



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Submitted by:

John Sonntag on 10/23/16

Related Flight Report:

DC-8 10/15/16 - 10/16/16

Flight Number:

1141

Payload Configuration:

OIB-ATM NAV/ATM GPS/ATM-T5/T6/ATM FLIR/ATM CAMBOT MCoRDS/SNOW/Ku RADAR DMS/POS-AV GRAVIMETER

Nav Data Collected:

Yes

Total Flight Time:

11.8 hours

Submitted by:

Chris Jennison on 10/19/16

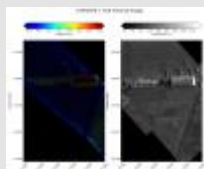
Flight Segments:

From:	SCCI	To:	SCCI
Start:	10/15/16 13:09 Z	Finish:	10/16/16 00:58 Z
Flight Time:	11.8 hours		
Log Number:	178010	PI:	Nathan Kurtz

Funding Source:	Bruce Tagg - NASA - SMD - ESD Airborne Science Program
Purpose of Flight:	Science
Comments:	The objectives of this flight were the Foundation and Support Force 34 ice sheets. These were new targets in the OIB catalog and conditions were excellent for the data collection. The post takeoff ramp pass imaged with the new FLIR camera and compared the ATM 6 elevation data.

Images:

SCCI Airport images



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Flight Hour Summary:

	178010
Flight Hours Approved in SOFRS	300
Total Used	306.9
Total Remaining	-6.9

178010 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining
10/04/16	1135	Science	4	4	296
10/05/16	1136	Science	2.7	6.7	293.3
10/12/16	1138	Transit	10.9	17.6	282.4
10/12/16	1139	Transit	3	20.6	279.4
10/14/16 - 10/15/16	1140	Science	10.9	31.5	268.5
10/15/16 - 10/16/16	1141	Science	11.8	43.3	256.7
10/17/16 - 10/18/16	1142	Science	11.8	55.1	244.9
10/20/16 - 10/21/16	1143	Science	11.4	66.5	233.5
10/22/16	1144	Science	11	77.5	222.5
10/24/16 - 10/25/16	1145	Science	11.5	89	211
10/25/16 - 10/26/16	1146	Science	11.3	100.3	199.7
10/26/16 - 10/27/16	1147	Science	12.1	112.4	187.6
10/27/16 - 10/28/16	1148	Science	11.5	123.9	176.1
10/28/16 - 10/29/16	1149	Science	11	134.9	165.1
10/31/16 - 11/01/16	1150	Science	11	145.9	154.1
11/02/16 - 11/03/16	1151	Science	11.2	157.1	142.9
11/03/16 - 11/04/16	1152	Science	11.5	168.6	131.4

11/04/16 - 11/05/16	1153	Science	11.1	179.7	120.3
11/05/16 - 11/06/16	1154	Science	11.7	191.4	108.6
11/07/16 - 11/08/16	1155	Science	11.2	202.6	97.4
11/09/16 - 11/10/16	1156	Science	11.7	214.3	85.7
11/10/16	1157	Science	10.9	225.2	74.8
11/11/16 - 11/12/16	1158	Science	11.3	236.5	63.5
11/12/16 - 11/13/16	1159	Science	11.1	247.6	52.4
11/14/16	1160	Science	10.9	258.5	41.5
11/15/16 - 11/16/16	1161	Science	11.6	270.1	29.9
11/17/16 - 11/18/16	1162	Science	11.1	281.2	18.8
11/18/16 - 11/19/16	1163	Science	11.1	292.3	7.7
11/21/16	1165	Transit	11.6	303.9	-3.9
11/21/16	1164	Transit	3	306.9	-6.9

Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.

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